

Application No.: 10/538,522
Amendment dated: July 24, 2006
Reply to Office Action of February 22, 2006
Attorney Docket No.: 21295.0106US1 (E0664US)

a.) Amendments to Specification

Replace the paragraph beginning at page 1, paragraph [010], in the specification as originally filed, with the following rewritten paragraph:

-- This task is solved by the reflected-light microscope, which comprises a light source to generate an illumination light beam that can be directed through a lens ~~that exhibits with a pupil lens on a pupil plane;~~ along an illumination beam path and onto a sample, ~~an~~ An imaging optics that generates an optically corresponding plane to the pupil plane, in which case at least one attenuation element that acts in an essentially uniform manner over the entire cross-section of the illumination light beam can be introduced into the illumination beam path on the optically corresponding plane.--

Replace the paragraph beginning at page 1, paragraph [012], in the specification as originally filed, with the following rewritten paragraph:

--Because the attenuating element according to the invention is arranged in the illumination light beam on a plane that corresponds optically to the pupil plane of the lens--that is, on a Fourier plane of the pupil plane of the lens, which Fourier plane is -to the focal plane of the imaging optics, lens--the structure of the attenuation element, which can, for example, have a grate or sieve structure, is not visible in the sample plane being observed. The sample is consequently not illuminated with a sieve pattern or a pinhole pattern; rather, illumination is reduced over the entire image field. At the same time, undesired changes in light power are avoided because the attenuation element acts over the entire cross-section of the illumination light beam and not just over marginal areas.--

Replace the paragraph beginning at page 1, paragraph [023], in the specification as originally filed, with the following rewritten paragraph:

-- FIG. 1 shows a reflected-light microscope according to the invention with a light source 1 for generating an illumination light beam 3. The illumination light beam 3 is

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focused by an optic 5, reaching a dichroic beam splitter 15 that reflects the illumination light beam 3 to a lens 17 by way of a storage mechanism 7, in which several attenuation elements are arranged that can be introduced into the illumination light path, one attenuation element 11 and a further attenuation element 13, both of which are implemented as fine-meshed grates, and then passes through an imaging optic 27. The lens 17 focuses the illumination light beam 3 on to the sample 19, which is marked with fluorescent dyes. The detection light 21 emitted by the sample reaches the beam splitter 15 by way of the lens 17, passes through it, a tube optic 23, and the ocular 25 before reaching the eye 73 of the user. The storage mechanism 7 is implemented as a turret disk 31 that holds the attenuation elements 11, 13. By rotating the turret disk 31, one of the attenuation elements 11, 13, which afford different degrees of attenuation, can be introduced into the illumination beam path, which permits the degree of attenuation to be adjusted. The attenuation elements 11, 13 are arranged on an optically corresponding plane 9 to the pupil plane 29 of the lens 17, which optically corresponding plane 9 is a focal plane of ~~generated by the~~ imaging optic 27. The turret disk 31 is driven by a motorized driver 33 that is implemented as a stepping motor 35. The stepping motor 35 is controlled by an electronic control mechanism 37. The lens 17 is screwed into a lens turret 55 that holds another lens 41, which is driven by a motor 39 that is also controlled by an electronic control device. The beam splitter 15 is arranged in a beam splitter filter module 47 that exhibits an excitation filter 43 and a detection filter 45. The beam splitter filter module 47 is arranged in a carousel 49 that permits simple changing of the beam splitter filter module 47 by rotating it around the shaft 51. The carousel 49 is driven by another motor 53 that he is controlled by an electronic control mechanism 37.--